Oslo, Norway 17 th of June 2018

Editor-in-chief
World Journal of gastroenterology

Dear Sir,

Please find enclosed our **revised** manuscript entitled:

Fatigue is not associated with vitamin D deficiency in IBD patients

Thank you for the opportunity to submit a revised version of our manuscript and for valuable advice from the reviewers. All changes to the original manuscript have been highlighted.

In this study we show that vitamin D levels were neither associated with total fatigue nor with chronic fatigue. To the best of our knowledge, no previous studies have investigated if vitamin D deficiency is associated with fatigue in IBD patients.

In the peer-review report it has been pointed out that fatigue has been reported to be more common in other studies in IBD patients. In our study chronic fatigue was reported by 29 % of patients. We have added in the manuscript the result for substantial fatigue reported by 48 % of patients. This is in accordance with other studies on fatigue and may make the results more generalizable to other populations. The questionnaire used to measure fatigue may influence the number of cases, and this has been commented on further in the discussion. We used the Fatigue Questionnaire as it has been validated in the general Norwegian population.

Vitamin D deficiency, with cut-off < 50 nmol/l used, was reported in half of the patients in our study. This is fairly high as this is a population under follow-up and medical treatment. We have earlier shown that lower 25-OH-D concentrations associated with higher disease activity scores and relapse rates in CD, as well as increased inflammatory markers in UC in this study population. We have clarified this in the revised manuscript.

Furthermore, we strongly agree that disease activity and inflammatory activity is important for the reporting of fatigue. We think that this has been elucidated in the study as we have

investigated both clinical disease activity and objective markers of inflammation (CRP and fecal calprotectin). Higher total fatigue scores and chronic fatigue were both associated with increased disease activity scores in patients with UC and CD, but not with increased CRP or fecal calprotectin. Measurements of albumin and total protein have not been included as patients with severe disease were not included in the study.

The abstract has been rewritten, author affiliations updated including ORCID numbers, core tip and article highlights added as requested. The references have been adjusted to the correct format including PMID and DOI. An audio core tip file has been recorded and uploaded.

Thank you again for considering our revised manuscript for publication.

Kind regards
Svein Oskar Frigstad, MD